

What is claimed is:

1. A quantum well infrared photodetector,  
comprising:  
a plurality of periods, each period having a barrier  
layer and a well layer, each well layer of each period  
coupled between two barrier layers,  
each well having a well bottom, and a well top, and  
each well supporting bound energy states therein,  
materials and thicknesses of said periods being  
selected such that a bound energy state is substantially  
resonant with said well top.